

Claims

1. A program executable by computer, characterized by comprising:
browser software for providing each component with a
service in accordance with specifications to be satisfied in order
5 for said each component to receive said service; and

a multimedia content formed by a collection of scenes each
containing a component group formed by customizing and arbitrarily
combining a plurality of said components operating on said browser
software and a script for operating said component; wherein said
10 service includes:

a service for reading a predetermined one of said
multimedia content and loading said component group and said script
contained in said scene constituting said multimedia content;

a service for managing a life cycle of each component
15 constituting said component group;

a service for displaying said component in a
predetermined 3D virtual space and erasing said component already
displayed in said 3D virtual space;

a service for providing a communication service between
20 an interpreter of said script and said component;

a service for managing focus transition between a
predetermined one of said components and another of said components;
and

a service for distributing an input from a predetermined
25 external key to a corresponding one of said components.

2. The program recited in claim 1 characterized in that said browser
software further provides said component with said service in

accordance with specifications to be satisfied in order for said component to receive said service, said service further comprising:

a service for synchronously reproducing a plurality of media; and

5 a transition service for transition between first and second ones of said scenes.

3. The program recited in claim 1 characterized in that said multimedia content is configured to maintain presentation
10 consistency when said multimedia content is reproduced on said browser software.

4. A recording medium recording a computer-readable program executable by computer, the program characterized by comprising:
15 browser software for providing each component with each service in accordance with specifications to be satisfied in order for said component to receive said service; and

multimedia content formed by a collection of scenes each containing a component group formed by customizing and arbitrarily
20 combining a plurality of said components operating on said browser software and a script for operating said component; wherein said service includes:

a service for reading a predetermined one of said multimedia content and loading said component group and said script
25 contained in said scene constituting said multimedia content;

a service for managing a life cycle of each component constituting said component group;

a service for displaying said component in a

predetermined 3D virtual space and erasing said component already displayed in said 3D virtual space;

a service for providing a communication service between an interpreter of said script and said component;

5 a service for managing focus transition between a predetermined one of said components and another of said components; and

a service for distributing an input from a predetermined external key to a corresponding one of said components.

10

5. A program executable by computer as multimedia content, characterized by a collection of a plurality of scenes each containing:

15 a component group formed by customizing and arbitrarily combining a plurality of components operating on browser software for providing said component with each service in accordance with specifications to be satisfied in order for said component to receive said service; and

20 a script for operating said component; wherein said service includes:

a service for reading a predetermined one of said multimedia content and loading said component group and said script contained in said scene constituting said multimedia content;

25 a service for managing a life cycle of each component constituting said component group;

a service for displaying said component in a predetermined 3D virtual space and erasing said component already displayed in said 3D virtual space;

a service for providing a communication service between an interpreter of said script and said component;

a service for managing focus transition between a predetermined one of said components and another of said components;

5 and

a service for distributing an input from a predetermined external key to a corresponding one of said components.

6. A recording medium recording a computer-readable program
10 executable by computer as a multimedia content, the program characterized by a collection of a plurality of scenes each containing:

a component group formed by customizing and arbitrarily combining a plurality of components operating on browser software
15 for providing said component with said service in accordance with specifications to be satisfied in order for said component to receive said service; and

a script for operating said component; wherein

20 said service includes:

a service for reading a predetermined one of said multimedia content and loading said component group and said script contained in said scene constituting said multimedia content;

25 a service for managing a life cycle of each component constituting said component group;

a service for displaying said component in a predetermined 3D virtual space and erasing said component

already displayed in said 3D virtual space;

a service for providing a communication service between an interpreter of said script and said component;

5 a service for managing focus transition between a predetermined one of said components and another of said components; and

a service for distributing an input from a predetermined external key to a corresponding one of said components.

10 7. A program executable by computer as browser software, characterized by:

providing each component with each service in accordance with specifications to be satisfied in order for said component to receive said service; said service including:

15 a service for reading a predetermined one of said multimedia content and loading said component group and said script contained in said scene constituting said multimedia content;

a service for managing a life cycle of each component constituting said component group;

20 a service for displaying said component in a predetermined 3D virtual space and erasing said component already displayed in said 3D virtual space;

a service for providing a communication service between an interpreter of said script and said component;

25 a service for managing focus transition between a predetermined one of said components and another of said components; and

a service for distributing an input from a predetermined

external key to a corresponding one of said components.

8. A program executable by computer as browser software, characterized by providing:

5 each component with each service in accordance with specifications to be satisfied in order for said component to receive said service; wherein said service includes:

 a service for reading a predetermined one of said multimedia content and loading said component group and said script
10 contained in said scene constituting said multimedia content;

 a service for managing a life cycle of each component constituting said component group;

 a service for displaying said component in a predetermined 3D virtual space and erasing said component already
15 displayed in said 3D virtual space;

 a service for providing a communication service between an interpreter of said script and said component;

 a service for managing focus transition between a predetermined one of said components and another of said components;
20 and

 a service for distributing an input from a predetermined external key to a corresponding one of said components.

9. A program characterized by comprising a step of producing a
25 multimedia content containing a collection of scenes each containing:

 a component group formed by customizing and arbitrarily combining a plurality of components operating on browser software

for providing each component with each service in accordance with specifications to be satisfied in order for said component to receive said service; and

a script for operating said component; wherein

5 said service includes:

a service for reading a predetermined one of said multimedia content and loading said component group and said script contained in said scene constituting said multimedia content;

10 a service for managing a life cycle of each component constituting said component group;

a service for displaying said component in a predetermined 3D virtual space and erasing said component already displayed in said 3D virtual space;

15 a service for providing a communication service between an interpreter of said script and said component;

a service for managing focus transition between a predetermined one of said components and another of said components; and

20 a service for distributing an input from a predetermined external key to a corresponding one of said components.

10. The program recited in claim 9 characterized by further comprising a step of combining said produced multimedia content and
25 said browser software to create one program.

11. The program recited in claim 9 characterized in that said producing step includes:

a display control step of controlling to read said component in a distribution format and displaying on GUI;

an addition step of adding said component selected on said GUI to said multimedia content;

5 a providing step of providing said GUI which customizes said component contained in said multimedia content; and

a converting step of converting said multimedia content edited by said display control step, said addition step and said providing step into a distributable format.

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12. A computer-readable program executed by computer characterized by comprising a step of producing a multimedia content containing a collection of scenes each containing:

15 a component group formed by customizing and arbitrarily combining a plurality of components operating on browser software for providing each component with each service in accordance with specifications to be satisfied in order for said component to receive said service; and

20 a script for operating said component; wherein:
said service includes:

a service for reading a predetermined one of said multimedia content and loading said component group and said script contained in said scene constituting said multimedia content;

25 a service for managing a life cycle of each component constituting said component group;

a service for displaying said component in a predetermined 3D virtual space and erasing said component

already displayed in said 3D virtual space;

a service for providing a communication service between an interpreter of said script and said component;

5 a service for managing focus transition between a predetermined one of said components and another of said components; and

a service for distributing an input from a predetermined external key to a corresponding one of said components.

10 13. A program executable by computer characterized by comprising:

a conversion step of converting a format of a multimedia content produced in accordance with a first format utilizing techniques of expressing a data structure by a text into a second format; wherein:

15 said multimedia content whose format was converted into said second format by said conversion step contains a collection of scenes each containing:

20 a component group formed by customizing and arbitrarily combining a plurality of components operating on browser software for providing each component with each service in accordance with specifications to be satisfied in order for said component to receive said service; and

a script for operating said component; and said service includes:

25 a service for reading a predetermined one of said multimedia content and loading said component group and said script contained in said scene constituting said multimedia content;

a service for managing a life cycle of each component constituting said component group;

a service for displaying said component in a predetermined 3D virtual space and erasing said component already displayed in said 3D virtual space;

a service for providing a communication service between an interpreter of said script and said component;

a service for managing focus transition between a predetermined one of said components and another of said components; and

a service for distributing an input from a predetermined external key to a corresponding one of said components.

14. The program recited in claim 13 characterized by further comprising a step of combining said multimedia content whose format was converted into said second format by said conversion step and said browser software to create one program.

15. The program recited in claim 13 characterized in that said techniques of being utilized by said first format are techniques utilizing XML.

16. A computer-readable program executed by computer characterized by comprising:

a conversion step of converting a format of a multimedia content produced in accordance with a first format utilizing techniques of expressing a data structure by a text, from said first format into a second format; wherein:

said multimedia content whose format was converted into said second format by said conversion step contains a collection of scenes each containing:

a component group formed by customizing and arbitrarily combining a plurality of components operating on browser software for providing each component with each service in accordance with specifications to be satisfied in order for said component to receive said service; and

a script for operating said component; and

said service includes:

a service for reading a predetermined one of said multimedia content and loading said component group and said script contained in said scene constituting said multimedia content;

a service for managing a life cycle of each component constituting said component group;

a service for displaying said component in a predetermined 3D virtual space and erasing said component already displayed in said 3D virtual space;

a service for providing a communication service between an interpreter of said script and said component;

a service for managing focus transition between a predetermined one of said components and another of said components; and

a service for distributing an input from a predetermined external key to a corresponding one of said components.

17. An information processing apparatus for reproducing a multimedia content characterized by comprising:

acquiring means for acquiring a program;
executing means for executing said browser program
acquired by said acquiring means; and

reproducing means for reproducing said multimedia
5 content acquired by said acquiring means, by utilizing services
provided by said browser software executed by said executing means;
wherein:

said program comprises:

10 browser software for providing each component with each
service in accordance with specifications to be satisfied
in order for said component to receive said service; and

a multimedia content formed by a collection of scenes
each containing a component group formed by customizing
and arbitrarily combining a plurality of said components
15 operating on said browser software and a script for
operating said component; and

said service includes:

a service for reading a predetermined one of said
multimedia content and loading said component group and
20 said script contained in said scene constituting said
multimedia content;

a service for managing a life cycle of each component
constituting said component group;

25 a service for displaying said component in a
predetermined 3D virtual space and erasing said component
already displayed in said 3D virtual space;

a service for providing a communication service between
an interpreter of said script and said component;

a service for managing focus transition between a predetermined one of said components and another of said components; and

5 a service for distributing an input from a predetermined external key to a corresponding one of said components.

18. The information processing apparatus recited in claim 17 characterized by further comprising:

10 storing means for storing said browser software, said storing means storing said browser software in advance; wherein said executing means executes said browser software stored in advance in said storing means, if said multimedia content is acquired by said acquiring means.

15 19. An information processing method for an information processing apparatus for reproducing a multimedia content, characterized by comprising:

an acquiring step of acquiring a program

20 an executing step of executing said browser program acquired by said acquiring step; and

a reproducing step of reproducing said multimedia content acquired by said acquiring step, by utilizing services provided by said browser software executed in said executing step; wherein:

said program comprises:

25 browser software for providing each component with each service in accordance with specifications to be satisfied in order for said component to receive said service; and a multimedia content formed by a collection of scenes

each containing a component group formed by customizing and arbitrarily combining a plurality of said components operating on said browser software and a script for operating said component; and

5 said service includes:

 a service for reading a predetermined one of said multimedia content and loading said component group and said script contained in said scene constituting said multimedia content;

10 a service for managing a life cycle of each component constituting said component group;

 a service for displaying said component in a predetermined 3D virtual space and erasing said component already displayed in said 3D virtual space;

15 a service for providing a communication service between an interpreter of said script and said component;

 a service for managing focus transition between a predetermined one of said components and another of said components; and

20 a service for distributing an input from a predetermined external key to a corresponding one of said components.

20. An information processing apparatus for producing multimedia content containing a collection of scenes each containing:

25 a component group formed by customizing and arbitrarily combining a plurality of components operating on browser software for providing each component with each service in accordance with specifications to be satisfied in order for said component to receive

said service; and

a script for operating said component; wherein:

said service includes:

5 a service for reading a predetermined one of said multimedia content and loading said component group and said script contained in said scene constituting said multimedia content;

a service for managing a life cycle of each component constituting said component group;

10 a service for displaying said component in a predetermined 3D virtual space and erasing said component already displayed in said 3D virtual space;

a service for providing a communication service between an interpreter of said script and said component;

15 a service for managing focus transition between a predetermined one of said components and another of said components; and

a service for distributing an input from a predetermined external key to a corresponding one of said components.

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21. An information processing method for an information processing apparatus for producing a multimedia content, characterized in that said multimedia content contains a collection of scenes each containing:

25 a component group formed by customizing and arbitrarily combining a plurality of components operating on browser software for providing each component with each service in accordance with specifications to be satisfied in order for said component to receive

said service; and

a script for operating said component; wherein:

said service includes:

5 a service for reading a predetermined one of said multimedia content and loading said component group and said script contained in said scene constituting said multimedia content;

a service for managing a life cycle of each component constituting said component group;

10 a service for displaying said component in a predetermined 3D virtual space and erasing said component already displayed in said 3D virtual space;

a service for providing a communication service between an interpreter of said script and said component;

15 a service for managing focus transition between a predetermined one of said components and another of said components; and

a service for distributing an input from a predetermined external key to a corresponding one of said components.

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22. An information processing apparatus for producing multimedia content, characterized by comprising:

producing means for producing said multimedia content in accordance with a first format utilizing techniques of expressing

25 a data structure by a text; and

converting means for converting a format of a multimedia content produced by said producing means, from said first format into a second format; wherein:

said multimedia content whose format was converted into said second format by said converting means contains a collection of scenes each containing:

a component group formed by customizing and arbitrarily combining a plurality of components operating on browser software for providing each component with each service in accordance with specifications to be satisfied in order for said component to receive said service; and

a script for operating said component; and

said service includes:

a service for reading a predetermined one of said multimedia content and loading said component group and said script contained in said scene constituting said multimedia content;

a service for managing a life cycle of each component constituting said component group;

a service for displaying said component in a predetermined 3D virtual space and erasing said component already displayed in said 3D virtual space;

a service for providing a communication service between an interpreter of said script and said component;

a service for managing focus transition between a predetermined one of said components and another of said components; and

a service for distributing an input from a predetermined external key to a corresponding one of said components.

23. The information processing apparatus recited in claim 22 characterized by further comprising:

combining means for combining said multimedia content whose format was converted into said second format by said converting means and said browser software to create one program.

5 24. The information processing apparatus recited in claim 22 characterized in that the techniques used by said first formation are techniques utilizing XML.

25. An information processing method for an information processing
10 apparatus for producing a multimedia content, characterized by comprising:

a producing step of producing said multimedia content in accordance with a first format utilizing techniques of expressing a data structure by a text; and

15 a converting step of converting a format of said multimedia content produced by said producing means, from said first format into a second format; wherein:

said multimedia content whose format was converted into said second format by said converting step contains a collection of scenes
20 each containing:

a component group formed by customizing and arbitrarily combining a plurality of components operating on browser software for providing each component with each service in accordance with specifications to be satisfied in order for
25 said component to receive said service; and

a script for operating said component; and
said service includes:

a service for reading a predetermined one of said multimedia

content and loading said component group and said script contained in said scene constituting said multimedia content;

a service for managing a life cycle of each component constituting said component group;

5 a service for displaying said component in a predetermined 3D virtual space and erasing said component already displayed in said 3D virtual space;

a service for providing a communication service between an interpreter of said script and said component;

10 a service for managing focus transition between a predetermined one of said components and another of said components; and

a service for distributing an input from a predetermined external key to a corresponding one of said components.

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26. An information processing system including a first information processing apparatus for producing a multimedia content and distributing said produced multimedia content; and a second information processing apparatus for reproducing said multimedia content distributed by said first information processing apparatus; said first information processing apparatus and said second information processing apparatuses being interconnected by a network; said information processing system characterized in that:

25 said first information processing apparatus produces said multimedia content containing a collection of scenes and distributes as one program said produced multimedia content and said browser software to said second information processing apparatus via said network; and

said second information processing apparatus reproducing said multimedia content in said distributed program on said browser software in said distributed program; wherein

each of said scenes contains:

5 a component group formed by customizing and arbitrarily combining a plurality of components operating on browser software for providing each component with each service in accordance with specifications to be satisfied in order for said component to receive said service; and

10 a script for operating said component; and
said service includes:

a service for reading a predetermined one of said multimedia content and loading said component group and said script contained in said scene constituting said multimedia content;

15 a service for managing a life cycle of each component constituting said component group;

a service for displaying said component in a predetermined 3D virtual space and erasing said component already displayed in said 3D virtual space;

20 a service for providing a communication service between an interpreter of said script and said component;

a service for managing focus transition between a predetermined one of said components and another of said components; and

25 a service for distributing an input from a predetermined external key to a corresponding one of said components.